Trachoma*

1. Brief description of the condition/disease

Trachoma is a bacterial disease of the conjunctiva caused by four serovars of *Chlamydia trachomatis* This organism is also responsible for a common reproductive tract infection, but the serovars that infect the genital tract usually do not infect the eye Trachoma is the major infectious and preventable cause of blindness. Of all causes of blindness. it is second after cataract. Trachoma generally occurs where there is poverty, poor hygiene. and poor access to water It is a disease of families: if one sibling is infected, more than 50% of others are likely to be infected with or without clinical signs. Blindness occurs after repeated infections and is 2–3 times more common in women than in men.

2. Current global burden and rating within the overall burden of disease

It is estimated that trachoma affects 146 million persons. and 500 million are at risk of the disease. An estimated 5.9 million people are blind or are at immediate risk for trachoma-associated blindness. Trachoma accounts for 15 5% of the global burden of blindness.

3. Feasibility (biological) of elimination/eradication

Elimination of blinding trachoma is possible but eradication of *C. trachomatis* seems impossible. Trachoma has disappeared from North America and Europe because of improved socioeconomic conditions and hygiene.

4. Estimated costs and benefits of elimination/eradication

Both surgical and nonsurgical interventions for trachoma control are highly cost-effective. Evans & Ransom employ a new measure — handicap-adjusted life years (HALYs) — a composite of years lost from both morbidity and mortality. During the 30 years of a trachoma control programme. the costs were US$ 11 per HALY saved for nonsurgical intervention and US$ 59 per HALY saved for surgical intervention.

5. Key strategies to accomplish the objectives

A new strategy (SAFE) has been developed from past knowledge and new techniques based on recent epidemiologic and control studies, as outlined below

S: Surgery to correct lid deformity and prevent blindness. A simple tarsal rotation technique can be performed by eye nurses in 10 minutes.

A: Antibiotics for acute infections and/or community control — tetracycline ointment twice a day for 6 weeks or the new macrolide antibiotic, azithromycin. in a single dose. Operational research is required to work out the best regimen.

F: Facial hygiene. Clean faces are associated with a lower prevalence of trachoma. Behavioural change can be introduced and sustained even in poor areas with little water.

E: Environmental change — improved access to water and sanitation and health education.

Because SAFE depends on community development/good public health practice. it involves not only the ministry of health but ministries of agriculture and water and sanitation. Beyond medical intervention. health education and community involvement are central to the success of this strategy.

In addition to SAFE. a new simplified grading scheme has been developed for detecting and grading active infection in communities:

TF: follicular disease (the presence of five or more follicles in the upper tarsal conjunctiva);

TI: intense inflammation (pronounced inflammatory thickening of the upper tarsal conjunctiva that obscures more than half of the normal deep tarsal vessels);

TS trachomatous scarring (the presence of scarring in the tarsal conjunctiva).

TT: trachomatous trichiasis (at least one eyelash rubs on the eyeball):

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CO: corneal opacity (easily visible corneal opacity over the pupil).

WHO has organized an Alliance for Global Elimination of Trachoma by the Year 2020 (GET 2020), including nongovernmental organizations concerned with blindness prevention (Christoffel Blinded Mission, International Eye Foundation, Sight Savers International, Helen Keller International, Swiss Red Cross, The Carter Center, WorldVision, etc.), foundations (Edna McConnell Clark, Hilton, and Gulbenkian), bilateral agencies (such as DANIDA), and the private sector (Pfizer Inc.)

6. Research needs

In the absence of a vaccine, operational research with regard to the SAFE strategy is needed for the following: testing and validation of rapid community assessment techniques; azithromycin regimens; cost-benefit studies; surveillance/monitoring studies; and barriers to the acceptance of the preventive surgical procedure.

7. Status of elimination/eradication efforts to date

Trachoma decreases and even disappears with improved economic and social conditions and is absent from North America and Europe. Morocco has embarked on a plan to eliminate trachoma from five southern provinces in a programme supported by WHO, the Edna McConnell Clark Foundation, Pfizer Inc., and the World Bank. Pfizer is donating azithromycin to the programme and supporting efforts to advance health education and community participation.

8. Principal challenges to elimination/eradication

The principal challenge is generating awareness of both the problem within countries and the feasibility of control. The relative simplicity and low technological requirements of the strategy make trachoma elimination feasible, even in the poorest countries where it remains a public health problem